

County of Loudoun
Department of Planning
MEMORANDUM

DATE: May 21, 2008

TO: Marchant Schneider, Project Manager
Land Use Review

FROM: Joe Gorney, AICP, Senior Planner
Community Planning



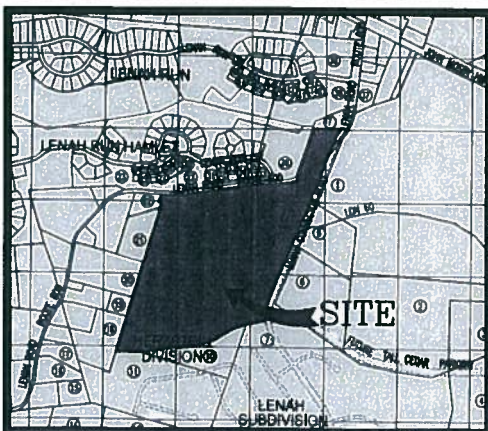
**SUBJECT: SPEX 2008-0017 & CMPT 2008-0007, Loudoun County Public Schools
– Lenah Property**

EXECUTIVE SUMMARY

The Loudoun County School Board proposes a Special Exception and Commission Permit to allow a high school and middle school in the TR-1 (Transition Residential) Zoning District. The site is approximately 99.9 acres and is located south of Route 50 and Lenah Road (Route 600), and west of Elliot Lane.

The proposed middle and high schools are envisioned within the Transition Policy Area along collector roads provided that they are developed at a scale that allows them to blend effectively (visually and spatially) into a rural landscape. Staff recommends the applicant address issues related to the Green Infrastructure and site design so that the application can be fully evaluated for conformance with Plan policies.

BACKGROUND



Vicinity Map

The Loudoun County School Board proposes a Special Exception and Commission Permit to allow a high school and middle school in the TR-1 (Transition Residential) Zoning District. The site is approximately 99.9 acres and is located south of Route 50 and Lenah Road (Route 600), and west of Elliot Lane. The site is bounded by the Lenah Run Subdivision to the north, residential uses to the west, planned residential uses to the south, and residential uses to the east. A portion of the property is in the Ldn 60 of the Airport Impact Overlay District, with the remainder in the Ldn 60 1-mile buffer.

The applicant proposes a high school of up to 280,000 square feet, and a middle school, of up to 170,000 square feet, for a maximum of 450,000 square feet total, along with associated recreational facilities.

The applicant anticipates the following:

- Middle School
 - Size: up to 170,000 square feet
 - Student Capacity: 1,350
 - Three (3) recreational fields (two soccer & one softball)
- High School
 - Size: up to 280,000 square feet
 - Student Capacity: 1,800
 - Football stadium
 - Concession stands
 - Ticket booths
 - Storage buildings
 - Field house
 - Baseball dugout
 - Various athletic fields (for both physical education & competition)

The applicant states that the schools are anticipated to serve students in the Upper Broad Run, Upper Foley, Lower Foley, and Lower Bull Run Transition Policy subareas, as well as students in portions of the Suburban Policy area east of the Upper Broad Run subarea (Statement of Justification, February 14, 2008, p. 2).

The planned opening of the middle school (MS-5) is Fall 2010, and the planned opening of the high school is Fall 2011 (HS-7). The planned openings are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program.

The property contains various Green Infrastructure resources; including wetlands, surface waters, forest resources, moderately steep slopes, and habitat areas.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The site is governed under the policies of the Revised General Plan, the Countywide Transportation Plan (CTP), and the Bicycle and Pedestrian Mobility Master Plan (BPMMP). The site is located in the Upper Broad Run subarea of the Transition Policy Area (Revised General Plan, Map, p. 8-3). The County's vision for the Transition Policy Area is for land uses that provide a visual and spatial transition between the suburban development to the east and the rural development to the west.

ANALYSIS LAND USE

The Transition Area is intended to develop with a unique and innovative blend of rural and suburban development features that fully integrate the elements of the Green Infrastructure and establish natural open spaces as a predominant visual element and

enhancement to the area's river and stream corridors (Revised General Plan, text, pp. 8-1 to 8-2).

The non-residential component of the Transition Policy Area will be comprised of uses that represent an appropriate transition from suburban to rural land uses, such as public schools and other compatible land uses. These uses will serve to promote a rural character while serving both rural and suburban populations (Revised General Plan, text, p. 8-2).

Within the Transition Area, such uses are to front major arterial or collector roads (Revised General Plan, Guideline 3.c., p. 11-19) and are to be developed at a scale that allows them to blend effectively (visually and spatially) into a rural landscape (Revised General Plan, Guideline 3.a., p. 11-19). The proposed schools would front the planned Lenah Connector, which is classified as a minor collector (CTP, text, p. A1-49).

The proposed middle and high schools are envisioned within the Transition Policy Area along collector roads provided that they are developed at a scale that allows them to blend effectively (visually and spatially) into a rural landscape. Therefore, staff supports the siting of these schools in the proposed location provided that they address the issues outlined below.

GREEN INFRASTRUCTURE

The Green Infrastructure is a collection of natural, cultural, heritage, environmental, protected, passive, and active resources that are integrated into a related system. These resources include wetlands, moderately steep slopes, and vegetated landscapes (Revised General Plan, Policy 1, pp. 5-1 to 5-2). The County uses integrated management strategies for the Green Infrastructure to ensure that all land use planning and development respect and preserve the holistic nature of the elements of the Green Infrastructure (Revised General Plan, Policy 2, p. 5-2). All development within the Transition Policy Area will be clustered with 50 to 70 percent open space and the full implementation of the Green Infrastructure policies (Revised General Plan, text, p. 8-1).

The property contains various Green Infrastructure resources including wetlands, a pond, forest resources, moderately steep slopes, and cultural resources.

Wetlands

The County supports the federal goal of no net loss to wetlands (Revised General Plan, Policy 23, p. 5-11). Wetlands perform several functions: they trap sediment, reduce nutrient loads, provide wildlife habitat, receive groundwater discharges, and attenuate flood waters.

The plat shows several jurisdictional wetlands and drainage areas. A pond is located at the northwest corner of the site, along an unnamed intermittent tributary to Lenah Run. The applicant proposes a permit to remove the wetlands south of the pond, to allow the

installation of a baseball field. In the event of an impact, compensatory mitigation (restoration, creation, enhancement, and preservation) could replace the loss of wetland functions in the watershed to meet the County's goal of no net loss to the existing acreage and functions of wetlands. The applicant has not provided details regarding compensatory mitigation.

Staff recommends that the applicant replace the loss of any wetlands functions in the watershed through the use of compensatory mitigation (restoration, creation, enhancement, and preservation).

Surface Waters

The project's proposed impervious surfaces, including roadways and rooftops, are anticipated sources of runoff and pollutants, such as litter, road salts, oil, grease, and heavy metals, which impact water quality (Revised General Plan, text, p. 5-12). The proposed athletic fields can also be expected to have substances, such as fertilizers, pesticides, and herbicides, applied to them each year. Without precautions, such substances could reach water resources with a resultant degradation in water quality.

To protect water resources, the County promotes innovative, cost-effective reuse systems, domestic water-saving devices, and low-impact development (LID) techniques, which integrate hydrologically functional designs with methods for preventing pollution and through informed use (Revised General Plan, Policy 2, p. 5-17). Such devices could include permeable pavers, porous concrete, rain gardens, wet ponds, and oil-water separators, sited as close as possible to pollution sources.

Due to the potential for surface water contamination from stormwater runoff, staff recommends that the applicant commit to practices that minimize impacts to site resources and incorporate Low Impact Development techniques, such as permeable pavers, porous concrete, rain gardens, wet ponds, and oil-water separators, sited as close as possible to pollution sources.

Forest Resources

The County's forests and trees improve air and water quality, offer important habitat for birds, small mammals and other wildlife, and are buffers between communities. Forests and trees conserve energy by providing shade and evaporative cooling through transpiration. They reduce wind speed, redirect airflow, reduce stormwater runoff, and reduce soil erosion. Forests also provide the greatest single protection of water quality by filtering pollutants from stormwater runoff, decreasing stream bank erosion, and maintaining the physical, chemical, and biological condition of the stream environment (Revised General Plan, text, p. 5-32). The County encourages the preservation, protection, and management of forest resources for their economic and environmental benefits (Revised General Plan, Policy 1, p. 5-32). Forest Management Plans, which are required prior to land development, will demonstrate management strategies that ensure the long-term sustainability of designated tree save areas (Revised General Plan, Policy 3, p. 5-32).

The site contains significant forest resources, including fencerows. The applicant's Forest Management Plan & Cover Type Map, dated June 29, 2004, highlights the various types of tree cover on the site. Cover Types 2 (mixed hardwoods), and 7 (fencerows), are described as the highest priorities for forest management. Under the proposed plat, much of the mixed hardwoods would be preserved while the fencerows would be eliminated. Treed areas are described on the plat as "Potential Tree Area[s]."

Staff recommends that the applicant commit to Tree Conservation Areas, incorporating Cover Types 2 and 7, wherever practicable. Staff also recommends that the applicant preserve fencerows, wherever practicable.

Moderately Steep Slopes

Moderately steep slopes are areas with a 15 to 25 percent grade (Revised General Plan, text, p. 5-26). Special performance standards are to be used to protect these slopes. These standards will include particular attention to best management practices (BMPs), locational clearances for clearing and grading, and natural drainageways (Revised General Plan, Policy 3, p. 5-26).

The northern portion of the site contains areas of moderately steep slopes, generally associated with intermittent tributaries to Lenah Run. With the exception of two limited areas alongside two athletic fields, the applicant has generally avoided moderately steep slopes. Limited encroachment into areas of moderately steep slopes would likely be required for the construction of these athletic facilities.

Staff recommends that the applicant commit to BMPs where encroachment into areas of moderately steep slopes occurs.

Plants, Wildlife, and Habitat

The County promotes the preservation and management of existing vegetative cover, and riparian, habitat, and wildlife travel corridors for their native biological diversity and to protect wildlife access to streams and other water sources (Revised General Plan, Policy 5, p. 5-33). The County also encourages the incorporation of indigenous vegetation into the landscape design of new development (Revised General Plan, Policy 7, p. 5-33).

The applicant submitted an Endangered and Threatened Species Habitat Evaluation and Rare Plant Species/Community Assessment, dated July 14, 2004. The study found that there was a low probability for endangered and threatened species or other State-rare plant species and natural communities to occur on the property.

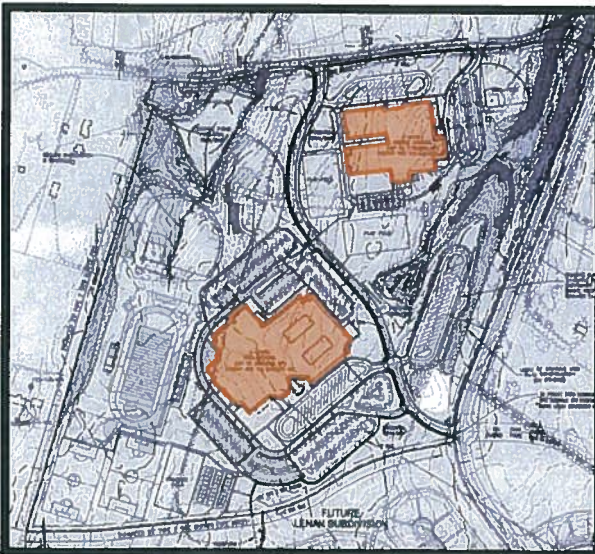
Staff recommends that the applicant incorporate indigenous vegetation into the landscape design.

SITE DESIGN

All public facilities will observe the location and design criteria as outlined in the Comprehensive Plan (Revised General Plan, Policy 4, p. 3-6). Non-residential uses, such as large institutions, are anticipated within the Transition Policy Area, provided that they meet specific criteria and address the nature, scale, intensity, and design characteristics of the use (Revised General Plan, Policy 15, p. 8-7).

Building Scale and Form

Non-residential uses will be developed at a scale that allows them to blend effectively (visually and spatially) into a rural landscape (Revised General Plan, Guideline 3.a., p. 11-19). Within the Transition Policy Area, individual buildings of non-residential development along collector roads will not be greater than 40 feet in height and 150 feet in length. Building heights will relate to the surrounding landscape and heights of adjacent structures (Revised General Plan, Guideline 3.b., p. 11-19).



Plat

The scale and the volume of the primary built mass and accessory elements should also not dominate over the natural landscape. Buildings should be shielded from the road using such items as natural landscaping and earthen berms (Revised General Plan, Guideline 3.c., p. 11-19).

Continuous plane building surfaces will be avoided. Homogeneous surfaces shall not exceed a linear distance of 20 feet especially when they front public access roads, such as major arterial or collector roads. Such surfaces will be broken up into smaller segments through fenestration and setbacks (Revised General Plan, Guideline 3.c., p. 11-19).

The applicant has generally placed the school buildings in the center of the site with athletic fields and natural spaces around the periphery. Buildings are planned as two-story structures with maximum heights of 40 feet. The planned high school has a footprint of approximately 450' x 600'. The planned middle school has a footprint of approximately 300' x 450'.

Because the school buildings are longer than 150' in length, they do not meet County policies regarding the length of non-residential uses within the Transition Area. Therefore, staff recommends that the applicant avoid the use of continuous plane building surfaces, wherever practicable, and break up large building segments into smaller segments through the use of fenestration and setbacks.

Parking

Parking areas will be located behind buildings and will not be the dominant feature of the landscape. Paved parking surfaces will be broken into modules; interspersed by tree plantings and other on-site landscape to prevent the creation of large paved surfaces as associated with suburban malls or office complexes (Revised General Plan, Guideline 3.c., pp. 11-19).

The applicant has generally placed parking modules adjacent to the proposed buildings. Parking would be screened from the neighboring uses by buffers. The applicant has not depicted the type or location of landscape plantings to be used in the parking lots.

Staff recommends that parking surfaces be interspersed with tree plantings and other on-site landscape materials to prevent the creation of large paved surfaces. Staff also recommends that the applicant pay special attention to views and the parking areas from the adjacent residential uses and consider the use of short berms to block the views of the pavement.

Buffering

Schools play a special role in neighborhoods and communities. As focal points, it is important that their location and design set the highest possible standards (Revised General Plan, text, p. 3-6).

In regards to buffer design, the applicant has planned Enhanced 25-foot Type 2 Side Buffers along the west and south sides of the development to buffer the uses from surrounding residential development. The Enhanced Side Buffers would consist of 2 canopy trees, 4 understory trees, and 10 shrubs per 100 linear feet.

25-foot Type 2 Front Buffers are planned along both Lenah Road to the north and the Lenah Connector to the east. The Front Buffers would consist of 3 canopy trees, 2 understory trees, and 10 shrubs per 100 linear feet. 2 Evergreen trees would also be provided per 100 linear feet between the bus storage area and the Lenah Collector, to shield the bus storage area.

Staff finds that the Front and Side Buffers contain an adequate number of plants to help buffer the schools from the surrounding uses. Staff recommends that the plants be placed to frame front views of the schools and to filter views of utility areas, and that these elements be repeated throughout the school campus. Staff also recommends that the applicant utilize plants indigenous to the area after consultation with the County Arborist. Planting areas should not be limited to buffers, but should be designed to flow into the adjacent pervious areas.

Efficiency

In implementing its program for achieving and sustaining a Built Environment of high quality, the County will emphasize its role as leader and facilitator, and as a source of information on environmental design options and procedures (Revised General Plan, Policy 2, p. 5-5).

The applicant has listed several sustainable design practices that have been or will be incorporated into various County projects. The applicant states that “LCPS has and will continue to substantially incorporate the materials and methods as described in these guidelines that exemplify environmental stewardship and leadership in school construction” (Statement of Justification, February 14, 2008, p. 5).

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System of the U.S. Green Building Council provides information regarding such design options. The LEED Rating System emphasizes five key areas of human and environmental health:

- Sustainable site development;
- Water savings;
- Energy efficiency;
- Materials selection; and
- Indoor environmental quality (Source: U.S. Green Building Council, www.usgbc.org).

Staff recommends that the applicant specify the sustainable design measures that will be incorporated into each school and its surrounding site. Staff suggests that the applicant consider committing to the LEED Rating System.

Bicycle & Pedestrian Facilities

Public school sites should be located at the focus of the attendance area, and will provide safe and convenient access for students. All public schools will be linked to adjacent neighborhoods by sidewalks or trails on both sides of roadways and crosswalks, and where possible, linked to greenways or trails (Revised General Plan, Policy 4, pp. 3-9 - 3-10).

All land development applications are to provide bicycle, pedestrian, and transit access linkages to the County Bicycle and Pedestrian Network (BPMMP, Policy 5, p. 33). All bicycle facilities will be designed in accordance with nationally accepted design guidelines established by organizations such as American Association of State Highway and Transportation Officials (AASHTO). Shared-use paths are to be 10 feet wide and paved (BPMMP, text, p. 42, & Policy 1, p. 46). Other roads, as a minimum, will have sidewalks on both sides, with widths from 5 to 6 feet. Vegetated buffers shall also be provided between roads and sidewalks. Six-foot wide sidewalks will feature 4-foot wide vegetated buffers (BPMMP, Policy 2, p. 31).

Within and around the project area, Tall Cedars Parkway and the Lenah Collector are planned as Baseline Connecting Roadways for the County Bicycle and Pedestrian Network (BPMMP, East Loudoun County Network Map).

Currently, there are no pedestrian or bicycle facilities along the existing surrounding roads. However, sidewalks and 8-foot wide asphalt trails are planned within the site. A trail connection is also provided in the south-central portion of the site to the planned Lenah Subdivision. The plat does not depict any pedestrian connections along the planned Lenah Connector and it is unclear as to the extent of the planned pedestrian facilities along the existing Lenah Road. It is also unclear whether the drawings depict curbs, sidewalks, or other types of pedestrian facilities along the various internal roads.

Staff recommends that the applicant depict the existing and planned pedestrian and bicycle network on the plat with special attention to pedestrian and bicycle facilities along internal roads, the Lenah Connector, and Lenah Road. The applicant should state whether these facilities will be constructed by the applicant or by others. Staff recommends that sidewalks/trails be provided on both sides of all internal roads and that safe crossing facilities be provided at all intersections. Staff also recommends that all bicycle and pedestrian facilities be constructed in accordance with County policies, AASHTO, and ADA. Staff recommends that 5 to 6-foot wide sidewalks be provided on both sides of all internal roads, that the applicant consider 10-foot paths for areas of high pedestrian traffic, and that safe crossing facilities be provided at all intersections.

Lighting

County policies call for appropriate lighting to achieve the following:

- Promote the use of lighting for convenience and safety without the nuisance associated with light pollution;
- Promote a glare-free environment through proper lighting performance standards to improve visibility and enhance public safety;
- Promote appropriate lighting standards to conserve energy; and
- Develop appropriate lighting standards to prohibit unnecessary and intrusive light trespass that detracts from the beauty and view of the night sky (Revised General Plan, Policy 1, p. 5-42).

The applicant stated that “[b]uilding and parking lot lights will be cutoff and fully shielded lighting fixtures, directed inward and downward toward the interior of the property.” Additionally, the applicant states that “[t]he high school football stadium, baseball and softball fields will be lighted” (Statement of Justification, February 14, 2008, p. 4).

Staff recommends that the applicant commit to lighting that is downward directed, is fully shielded, provides a glare free environment, is confined to the site, and has illumination levels that are no greater than necessary for a light’s intended purpose. All lighting should be designed to preclude light trespass onto adjoining properties, glare to passersby, skyglow, and deterioration of the

nighttime environment. Staff recommends that these standards also apply to lighting for all athletic facilities, including the football stadium.

COMMISSION PERMIT

The County will determine the need for new public facilities and will identify suitable sites based on the Revised General Plan, appropriate area plans, land use, and growth policies (Revised General Plan, Policy 2, p. 3-6).

In accordance with the Revised 1993 Zoning Ordinance, a Commission Permit is required when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use is in substantial accord with the Comprehensive Plan.

The planned opening of the middle school (MS-5) is Fall 2010, and the planned opening of the high school is Fall 2011 (HS-7). The planned openings are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program.

The proposed middle and high schools are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program. Additionally, staff finds that the general location, character, and extent of the proposed uses are in substantial accord with the Comprehensive Plan. Therefore, staff supports the approval of a Commission Permit for the proposed uses.

RECOMMENDATIONS

The proposed school facilities are appropriate uses within the Transition Policy Area. However, staff requests that the applicant address the issues raised above so that the application can be fully evaluated for conformance with Plan policies.

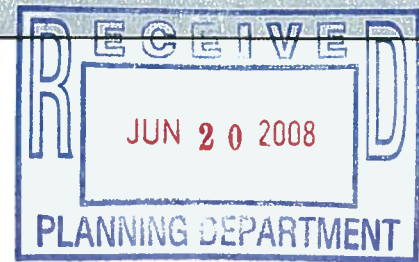
cc: Julie Pastor, AICP, Director, Planning
Cynthia L. Keegan, AICP, Program Manager, Community Planning (via email)

County of Loudoun
Department of Planning
MEMORANDUM

DATE: June 20, 2008

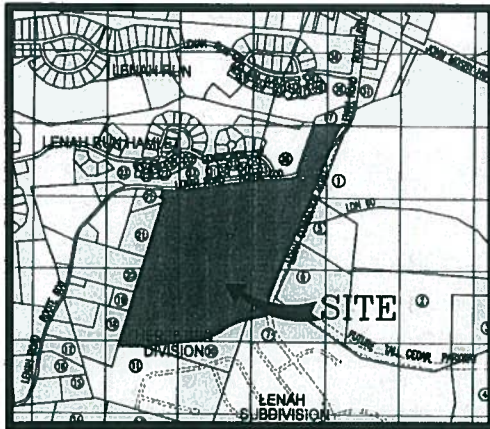
TO: Marchant Schneider, Project Manager
Land Use Review

FROM: Joe Gorney, AICP, Senior Planner *JG*
Community Planning



**SUBJECT: SPEX 2008-0017 & CMPT 2008-0007, Loudoun County Public Schools
– Lenah Property, 2nd Referral**

BACKGROUND



Vicinity Map

The Loudoun County School Board proposes a Special Exception and Commission Permit to allow a high school and middle school in the TR-1 (Transition Residential) Zoning District. The site is approximately 99.3 acres and is located south of Route 50 and Lenah Road (Route 600), and west of Elliot Lane. The site is bounded by the Lenah Run Subdivision to the north, residential uses to the west, planned residential uses to the south, and residential uses to the east. A portion of the property is in the Ldn 60 of the Airport Impact Overlay District, with the remainder in the Ldn 60 1-mile buffer.

The applicant proposes a high school of up to 280,000 square feet and a middle school of up to 180,000 square feet, for a maximum of 460,000 square feet total, along with associated recreational facilities.

The planned opening of the middle school (MS-5) is Fall 2010, and the planned opening of the high school is Fall 2011 (HS-7). The planned openings are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program.

The property contains various Green Infrastructure resources, including wetlands, surface waters, forest resources, moderately steep slopes, and habitat areas.

The applicant has responded to Community Planning's first referral. Below is a discussion of outstanding issues.

OUTSTANDING ISSUES

In the first referral, staff recommended the applicant address issues related to wetlands, surface waters, forest resources, moderately steep slopes, habitat, building scale and form, parking, buffering, efficiency, bicycle & pedestrian facilities, lighting, and wetlands. The applicant has satisfactorily addressed these issues, as detailed in the Response to Referral Comments, dated June 3, 2008. Staff recommends that these commitments be incorporated into the Conditions of Approval.

Location

As stated in the first referral, dated May 21, 2008, public school sites should be located at the focus of the attendance area (Revised General Plan, Policy 4, p. 3-9). In the revised Statement of Justification, the applicant provided specific information regarding the populations to be served. The applicant states that:

“[i]t is anticipated that these secondary schools will serve students in the Upper Broad Run, Upper Foley, Lower Foley, and Lower Bull Run Transition areas, as well as students in portions of the Suburban area to the east of Upper Broad Run and in portions of the Rural Area to the west. The actual boundaries will be determined approximately one year prior to school opening” (Statement of Justification, June 4, 2008, p. 2).

The applicant has also provided specific information demonstrating that the proposed schools will help to ease capacity issues at Mercer Middle School and Freedom High School (Statement of Justification, June 4, 2008, p. 2).

The proposed middle and high schools are institutional uses envisioned within the Transition Policy Area. Further, the schools are centrally located to serve students from the Transition, Rural, and Suburban Policy areas. Staff finds that the location of the proposed schools is in conformance with Plan policies and staff supports the application provided the outstanding issue below is resolved.

Lighting

Commitments toward athletic field lighting are particularly important, given the proximity of these fields to adjacent residential uses. The applicant states that “[t]he lighting system incorporates a reflector technology system that directs light onto the field and minimizes glare and spillage” (Response to Referral Comments, June 3, 2008, p. 21). The Concept Plan states that “[t]he high school football, baseball, and softball fields will be lighted” (Concept Plan, Note 14, Sheet 1), but does not discuss a reflector technology system.

In regards to hours of operation, the applicant states that:

"[t]he majority of the athletic events are over by 9:30 p.m. Typically, parking lot lighting will be turned off within one hour following the end of the evening activity or by 11 p.m., whichever occurs first. Similarly, athletic field lighting will be turned off by 11 p.m." (Response to Referral Comments, June 3, 2008, p. 21).

Staff recommends that the applicant commit to stadium and athletic field lighting that incorporates a reflector technology system, to help ensure compatibility with the adjacent residential uses. Staff also recommends that the applicant commit to the hours of operation as specified in the Response to Referral Comments.

COMMISSION PERMIT

The County will determine the need for new public facilities and will identify suitable sites based on the Revised General Plan, appropriate area plans, land use, and growth policies (Revised General Plan, Policy 2, p. 3-6).

In accordance with the Revised 1993 Zoning Ordinance, a Commission Permit is required when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use is in substantial accord with the Comprehensive Plan.

The planned opening of the middle school (MS-5) is Fall 2010, and the planned opening of the high school is Fall 2011 (HS-7). The planned openings are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program.

As stated in the first referral, dated May 21, 2008, the proposed middle and high schools are identified in the FY-2008-2012 School Board Adopted Capital Improvements Program. Additionally, staff finds that the general location, character, and extent of the proposed uses are in substantial accord with the Comprehensive Plan. Therefore, staff supports the approval of a Commission Permit for the proposed uses.

RECOMMENDATIONS

Staff finds that the proposed school facilities are appropriate uses within the Transition Policy Area and are in conformance with the Revised General Plan. Staff recommends approval, provided that the applicant, through the conditions of approval, commits to the Responses to Referral Comments, dated June 3, 2008, and lighting measures discussed above.

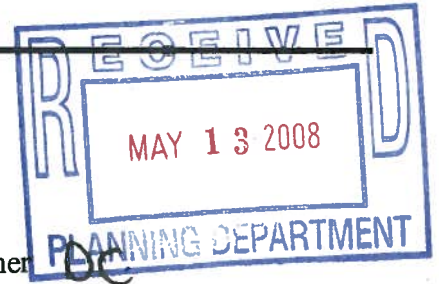
cc: Julie Pastor, AICP, Director, Planning
Cynthia L. Keegan, AICP, Program Manager, Community Planning (via email)

COUNTY OF LOUDOUN

DEPARTMENT OF BUILDING AND DEVELOPMENT

MEMORANDUM

DATE: May 13, 2008
TO: Marchant Schneider, Project Manager
FROM: Daniel Csizmar, Capital Facilities Planner
SUBJECT: SPEX-2008-0017, Lenah Middle & High School



The following are Zoning Administration's 1st referral comments for the Lenah Middle & High School Special Exception application:

1. Approval of the Special Exception is dependent upon the approval of SBPL-2008-0002, Lenah Subdivision. The lot containing the Middle and High School does not currently exist; the parcel will be created with the approval of SBPL-2008-0002 and subsequent Subdivision Record Plat applications. If the Subdivision applications are not approved, the parcel for the school site is not created. Zoning Staff cannot approve this Special Exception until the Preliminary Subdivision Application (SBPL-2008-0002) and subsequent Subdivision Record Plat applications are approved, and the internal property lines on the future school site are vacated.
2. Approval of the Special Exception is dependent upon the approval of SBPL-2008-0002, Lenah Subdivision. In the event the Lenah Subdivision is not approved, will Lenah Road be adequate to provide all road access to the middle and high school? Are the Loudoun Count Public Schools prepared to process subdivision applications to create the parcel needed for the school sites?
3. Please demonstrate how public utilities will be provided to the school site in the event SBPL-2008-0002 is not approved. Public water and sewer is proposed to be provided to the school site from the Lenah Subdivision. In the event the Subdivision is not approved, how will the schools obtain public utilities?
4. Please provide the Special Exception Number on Sheet 1 of the Plan Set (SPEX-2008-0017 and CMPT-2008-0007).
5. Please provide the Subdivision Application Number (SBPL-2008-0002) in Note #2 on Sheet 1.
6. Please provide a note on Sheet 1 that states there are 1.90 acres of minor floodplain in the Special Exception Area, and the site is subject to Section 4-1500 of the Revised 1993 Zoning Ordinance, Floodplain Overlay District.
7. A Floodplain Alteration permit is required for the portion of the future Lenah Connector Road that crosses the floodplain along the northern portion of the Special Exception area.
8. Please provide a note on Sheet 1 that states that the entire Special Exception Area is located within the LDN 60 and LDN 60 1 Mile Buffer areas, and is subject to Section 4-1400 of the Revised 1993 Zoning Ordinance, Airport Impact Overlay District. 244.66 acres of the subject parcel are within the

LDN 60 1 mile Buffer Area. 19.24 acres of the subject property are located within the LDN 60 Noise Contour.

9. Please Correct Note #6 on Sheet 1. The subject parcel is subject to Section 5-1508, Steep Slope Standards, of the Revised 1993 Zoning Ordinance. 3.92 acres of the Special Exception Area contain moderate steep slopes (15-25%). 0.09 acres of the Special Exception Area contain very steep slopes (25% or greater).
10. Development is prohibited in very steep slope areas. To development in moderate steep slope areas, the Applicant must obtain a locational clearance from the Department of Building & Development, a grading permit in accord with land disturbing activities on slopes, and incorporate stormwater management Best Management Practices into their plans for the property.
11. Please depict all very steep slope areas on the Special Exception Plat. Please verify that the proposed facilities and roads associated with the development of the School Site do not traverse very steep slope areas.
12. Please be advised that the school site cannot be used to count towards the 50% open space requirement for the Lenah Subdivision. The 50% open space requirement in the TR-1 district must be provided as part of the subdivision area south of the proposed school site.
13. Please eliminate Note #14 on Sheet 1. Signs for County facilities are exempt from the requirements of Section 5-1200 of the Zoning Ordinance.
14. Staff recommends the Applicant examine opportunities for shared parking between the Middle and High School uses on the property.
15. Staff recommends that since the site is heavily wooded, the Applicant preserve existing trees on the Site and set up Tree Save Areas wherever possible that meet the landscaping and buffering requirements found in Section 5-1400 of the Revised 1993 Zoning Ordinance.
16. Please indicate the proposed road classification for the future Lenah Connector to be developed by others. The eventual road classification for the future Lenah Connector will determine the required setback off of this road according to Section 5-900 of the Revised 1993 Zoning Ordinance. If the road has a required setback according to Section 5-900, then the setback needs to be shown on the Special Exception Plat.
17. Please list the Bus Storage Facility as a separate use on the Special Exception Application. A Bus Storage Facility is not an accessory use to a Middle or High School, and therefore, needs to be treated as a separate use. All uses for governmental purposes not listed in the TR-1 District require a Special Exception. Therefore, by listing the Bus Storage Facility as a separate use on the Special Exception Application for the Schools, the requirement to allow the use is being met.
18. Please provide an 8' trail along Lenah Road from the eastern entrance to the Middle School to the intersection of Lenah Road and the future Lenah Connector.

COUNTY OF LOUDOUN
DEPARTMENT OF BUILDING AND DEVELOPMENT
MEMORANDUM

DATE: June 19, 2008
TO: Marchant Schneider, Project Manager
FROM: Daniel Csizmar, Capital Facilities Planner
SUBJECT: SPEX-2008-0017, Lenah Middle & High School



The following are Zoning Administration's 2nd referral comments for the Lenah Middle & High School Special Exception application:

1. Please provide the Application Number of the proposed Boundary Line Adjustment that will create the 99.32 acre parcel for the Middle and High School in Note #2 on Sheet 1.
2. The lot containing the Middle and High School does not currently exist. Approval of the Site Plan is contingent upon the creation of the 99.32 acre parcel and the approval of the Special Exception allowing the use.
3. Please eliminate the car parking spaces from the Bus Storage area.

From: Daniel Csizmar
To: Howard-O'Brien, Sara; Schneider, Marchant
Date: 8/1/2008 11:55 AM
Subject: Re: Lenah, Zoning Comments

Sara,

I don't have a problem with it. The other parking lots are not easily accessible to the Bus Parking Lot, so the need for some car parking spaces is legitimate.

Please make sure the Bus Parking Area is labeled as such on the Special Exception Plat, and that it isn't labeled as a "Bus Storage Area". Bus Parking is a permissible accessory use to the schools, bus storage is not. I noticed the last SPEX Plat I saw still labeled it as storage, which needs to be revised.

Dan

Daniel Csizmar
Capital Facilities Planner
Department of Building & Development
Loudoun County, VA
(703) 771-5997

>>> Sara Howard-O'Brien 8/1/2008 11:14 AM >>>

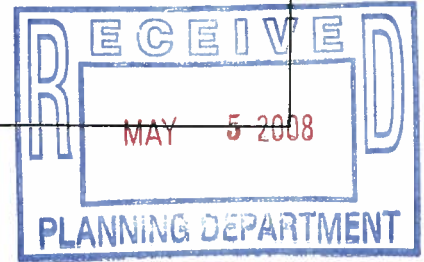
I am making the final changes to the SPEX plat for the upcoming PCPH. Dan, I know you had asked me about the parking spaces at the bus lot some time ago. The referral comments recommend that these be removed. I have spoken with Construction and the purpose of these spaces is to provide additional spaces for the bus drivers. (Some would park their cars to drive the buses, then as buses leave the lot, other drivers would fill in the bus spaces and so forth) They are not "public" spaces just driver spaces. Generally, this lot will be fenced off when not in use for buses coming and going. Do you have any problem with the spaces remaining for bus driver purposes only? We can post them for that purpose if that is desirable. Let me know what you think. Thanks. Sara

Sara Howard-O'Brien
Land Management Supervisor
Loudoun County Public Schools
Planning and Legislative Services
21000 Education Court
Ashburn, Virginia 20148
Phone: 571-252-1156
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E-mail: SHOWARD@LOUDOUN.K12.VA.US

DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM



DATE: May 5, 2008

TO: Marchant Schneider, Planning Project Manager

FROM: William Marsh, Environmental Review Team Leader *WM*

CC: Joe Gorney, Community Planner
Dana Malone, County Urban Forester
Todd Danielson, Manager of Community Systems, Loudoun Water *JK*

SUBJECT: SPEX-2008-0017 and CMPT-2008-0007 Lenah Schools 1

The Environmental Review Team (ERT) comments pertaining to the current application are as follows:

Regarding green building practices

- 1) Staff appreciates the inclusion of sustainable design elements in the commission permit statement of justification. With the second submittal, please include a LEED for Schools score sheet to indicate desired design outcomes for site sustainability, water efficiency, energy and atmosphere, indoor air quality, efficient materials and resources use, and innovative design. Providing the analysis will help assess where public facility design ranks vis-à-vis the LEED "silver" goal that is recommended in the December 2007 Metropolitan Washington Council of Governments green building report that was endorsed by the Board of Supervisors on April 15, 2008.
- 2) ERT specifically recommends a commitment to measurement and verification of green design elements with this project, similar to permanent measurement and verification systems to track water and energy usage at T.C. Williams High School in Alexandria, Virginia. Energy and water use data are collected and made available to students at a central "dash board" in the Ferdinand T. Day Student Commons. (<http://www.acps.k12.va.us/news2008/nr2007073102.php>) Such a commitment can enable students to test design effectiveness and spark career interest in sustainable design.

Regarding streams, wetlands, and stormwater

- 3) For clarity, update the wetland note number 18 to include the case number :2006-8379, dated September 10, 2007.

- 4) The existing pond on the northwest corner of the site is delineated as a water of the US. If federal and state permits approve enlarging the existing pond for stormwater purposes, please demonstrate that the pond's water quality volume is designed above and beyond the existing pond volume. Facilities Standards Manual (FSM) Section 5.320 requires best management practice (BMP) analysis to compare pre-development pollution loads with post-development loads. The existing pond volume already removes pollutants, and post-development load analysis should augment the existing pollution treatment to meet post-development BMP requirements.
- 5) ERT concurs with the Loudoun Water recommendation of turf management practices that will minimize fertilizer, pesticide, and herbicide runoff from lawns and athletic fields. Further, ERT concurs on the recommendation of bioretention basins to treat impervious storm runoff and runoff containing fertilizer.
- 6) ERT recommends minimizing proposed parking spaces on site to minimize stormwater runoff and pollution. Those spaces deemed necessary should include some combination of stormwater treatment, depending on proposed use:
 - Consider concrete grid pavers or other permeable surfaces with some gravel detention underneath to detain stormwater volumes, providing another low impact development option that may support Loudoun Water's concerns about impervious surfaces in the Lenah wellhead zone.
 - For any proposed bus parking area, ERT strongly recommends installation of oil-water separators to treat all runoff, above and beyond other BMP measures required. These areas are consistent with "fleet storage areas," a hotspot use identified in FSM Section 5.320.E.1d. Permeable parking surfaces are not recommended in conjunction with oil-water separators.
- 7) Staff emphasizes the importance of mitigating wetland and stream impacts close to the impact area to help maintain water quality and flood protection functions, as well as habitat. Therefore, where such impacts are deemed unavoidable, staff recommends a commitment be provided to prioritize the mitigation as follows: 1) within the Broad Run Watershed within the same Loudoun County geographic Policy Area, 2) within the Broad Run Watershed within another Loudoun County geographic Policy Area, or 3) elsewhere within Loudoun County, subject to approval by the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality. This approach is consistent with Policy 23 on Page 5-11 of the Revised General Plan (RGP), which states that "the County will support the federal goal of no net loss to wetlands in the County." Furthermore, the County's strategy is to protect its existing green infrastructure elements and to recapture elements where possible [RGP, Page 6-8, Green Infrastructure Text].

Regarding tree conservation

- 8) Adjust the "Potential Tree Area" label in the legend to "Potential Tree Save Area."
- 9) The best stand of mature hardwood forest on the project site is along the northeastern project boundary, along the proposed Lenah Connector. Most of the forest buffer between the road dedication and the perennial stream is not included for conservation. Forest, Tree and Vegetation policy 5 of the RGP encourages preservation of trees along roadways to "provide shading, reduce peak storm flows, and contribute to the enhancement of Green Infrastructure." (p.5-32) ERT recommends widening the tree conservation area parallel to the existing stream to at least 100 feet to effectively maintain green infrastructure.
- 10) Consider conserving tree resources on site by transplanting existing trees. This site includes significant stands of cedar trees. If relocated to the southern project boundary, they could provide an effective visual buffer for properties to the south. A successful transplant of loblolly pine trees on the Creighton Farms residential site along Route 15 helps to provide an effective visual buffer for the Oak Hill plantation historic site.
- 11) This site also possesses several fence rows. Please consider preservation of these fence rows outside of proposed field and building sites. One of the best examples of fence row preservation in Loudoun County is on the School Board building site.

Other

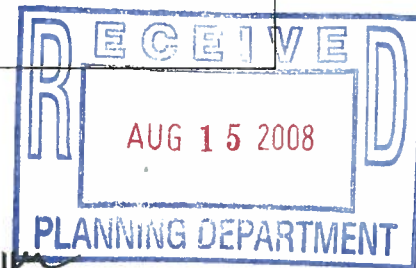
- 12) The County is in the early stages of implementing a program to establish a network of groundwater monitoring wells throughout Loudoun County. These wells will be dedicated to the long-term monitoring of groundwater levels and groundwater quality. Ultimately, the data collected from these wells can be used to better manage and protect this important resource upon which many citizens depend. Please consider dedicating well number WWIN-1970-0125 to the program, as there is no building proposed near it. A well accepted into the monitoring program does not need to be abandoned. Further information is available from Glen Rubis or Dennis Cumbie at (703) 777-0397.
- 13) Why is an emergency access road proposed to bisect four proposed basketball courts adjacent to the middle school site?

Staff requests an opportunity to comment on the subsequent submission of this application. Please contact me if you need any additional information.

DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM



DATE: August 15, 2008

TO: Marchant Schneider, Planning Project Manager

FROM: William Marsh, Environmental Review Team Leader

THROUGH: Dan Csizmar, Building and Development
Gary Clare, Building and Development

CC: Joe Gorney, Community Planner
Todd Danielson, Manager of Community Systems, Loudoun Water
Neelam Henderson and Ryan Sauder, Building and Development

SUBJECT: SPEX-2008-0017 and CMPT-2008-0007 Lenah Schools 1

The Environmental Review Team (ERT) comments pertaining to the current application are as follows:

Regarding streams, wetlands, and stormwater

- 1) The stormwater design relies almost exclusively on inlets, pipes and dry ponds with impermeable subsurfaces, leaving little opportunity for maintaining site infiltration as requested by County staff and Loudoun Water staff. Maintaining infiltration is important to maintain groundwater levels used to supply water to the Lenah subdivision. An application's impact on groundwater supply is also an issue for consideration, per Zoning Ordinance Section 6-1310(M). Accordingly, staff has the following suggestions for stormwater design to resolve this outstanding issue:
 - Reconsider using permeable parking surfaces for the bus parking area near the northern project boundary and the general parking area between the middle school and baseball diamond. Such surfaces are considered permeable and do not require further Best Management Practice treatment. Detention designs under the parking surface can store and convey excess runoff if soils lack permeability needed for complete infiltration.
 - The site plan shows significant vegetation and berm design between the north parking lot and Lenah Road. Staff recommends incorporation of bioretention basins (with underdrains if soils are not sufficiently permeable) for the parking lot and roof runoff conveyed through pipes in this area. Vegetation that is required for BMP purposes within the basins can be irrigated by runoff

instead of potable water and also meet Type 2 buffer requirements. Other grass and treed areas in the buffer can be irrigated from a cistern(s) draining rooftop runoff. Office of Capital Construction includes a cistern design for the Brambleton Public Safety Center for rainwater reuse.

Staff believes that implementing these recommendations will remove some or all of Pond 1. Staff also recommends a follow-up meeting with Building and Development staff, Planning, Loudoun Water, and LCPS to resolve stormwater issues.

- 2) The bus storage parking storage area is a stormwater hotspot, as described in Facilities Standards Manual (FSM) section 5.320.E.1.d. Staff recommends a condition of approval to require oil-water separators to treat runoff emanating from that parking lot.
- 3) Staff recommends a condition of approval for the existing pond site on the northwestern side of the project area, that if this pond is rebuilt for BMP purposes, then the pond design will achieve at least 65-percent phosphorous removal efficiency. This design goal will help meet the pre-development pollution load standard in FSM Section 5.320.
- 4) As agreed to by LCPS and consistent with Revised General Plan (RGP) Policy 23 on page 5-11, staff recommends a condition of approval for stream and wetland mitigation as follows: 1) within the Broad Run Watershed within the same Loudoun County geographic Policy Area, 2) within the Broad Run Watershed within another Loudoun County geographic Policy Area, or 3) elsewhere within Loudoun County, subject to approval by the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality.

Regarding tree conservation

- 5) To meet RGP policies addressing tree conservation, including Forest, Tree and Vegetation policy 5 in Chapter 5, staff recommends a condition of approval for tree conservation and maintenance of the preserved area.

Regarding water use

- 6) An irrigation well is being considered for athletic fields and outdoor uses, possibly in the same source water region as the Lenah subdivision wells. ZO Section 6-1310 (M) is relevant to this design choice. Staff recommends a condition of approval requiring the completion of a hydrogeological report, prior to site plan approval of either school, for the anticipated water demand for the middle school and high school uses to assess the effect of water supply on the Lenah wells, consistent with standards in Chapter 6 of the FSM. Staff further recommends that this condition allow for access to the wells for Building and Development staff to conduct water quality and quantity testing.

Regarding green building practices

- 7) Staff commends LCPS for the thorough consideration of LEED for this project and looks forward to the reviewing the overall report. The following suggestions apply to certain LEED credits but are not outstanding issues for this special exception:
- Achieving the site sustainability credits for stormwater quantity and quality is unlikely, given the current layout. The quantity credit would require one of two outcomes: to attenuate the critical storm volume as well as peak flow event, or to fortify channels downstream of the development to withstand the change in stormwater quantity. The detention volume required for the first option is too extensive for the pond layout shown, and the dense vegetation on the downstream, natural channels would preclude further improvement of the channel. Regarding storm quality, the LEED standard requires effective treatment of the first inch of impervious runoff. The untreated bypass flow on the eastern parking lot would disqualify the project for the quality credit. Both credits also presume a concerted effort by the builder to maintain site infiltration potential. The previous stormwater comment could help achieve the stormwater quality credit.
 - The measurement and verification credit under energy and atmosphere may be achieved with current school operating procedures, as described in the applicant's response letter. That notwithstanding, staff still suggests consideration of energy dashboards in school design.
 - The 40-percent target for water efficiency in building use is outstanding. Staff does suggest pursuit of minimal irrigation needs for buffer plantings. The previous stormwater comments could further improve outdoor water use efficiency.
- 8) Staff has discussed geothermal energy measures with school staff. While there is general interest in this approach, logistics are an historic hurdle. The time required to install geothermal wells usually conflicts with the shortened schedules for constructing the corresponding schools. Staff suggests consideration of a geothermal layout for the high school, where the well construction would coincide with the middle school construction schedule. That way, when the high school plan is approved and ready for construction, the geothermal design would already be in place. Staff will follow up with LCPS about this option outside of this special exception review.
- 9) Staff suggests that at least one of these school projects formally pursue LEED certification, to verify that these credits are attained. Staff is working on options that

would minimize certification expense and will discuss with LCPS outside of this special exception review.

Staff requests an opportunity to comment on any subsequent submission of this application and is available to meet with the applicant. Please contact me if you need any additional information.

From: William Marsh
To: Schneider, Marchant
CC: Danielson, Todd; Howard-O'Brien, Sara; Lewis, Kevin
Date: 9/2/2008 5:03 PM
Subject: Lenah meeting follow-up, draft conditions of approval review, green building comments

Marchant,

I will forward you a draft hard copy of the conditions with minor edits. The Energy/Water efficiency condition 14 does not address water efficiency. Energy Star is an EPA program that does not address water use. EPA does have "WaterSense", a water efficiency counterpart to Energy Star (www.epa.gov/watersense). If there is a desire to condition water efficiency I suggest including a "WaterSense" certification to cover water efficiency, or that we adapt language in Harmony special exception, SPEX-2006-0014, where the italicized part is most applicable:

"Water Conservation Fifty (50) percent of the toilets that will be installed in all bathrooms shall use less water than that required by Table 604.4 of the International Plumbing Code, i.e. 1.6 gallons per flush, and waterless urinals shall be installed in all boy's and men's bathrooms, prior to the issuance of a Certificate of Occupancy."

I also want to put second referral comments regarding LEED/green building into context. Last April, the Board of Supervisors endorsed a Council of Governments report on green building that addressed green building for public facilities. On page 69 of the technical report (see <http://www.mwcog.org/uploads/pub-documents/ylhXWQ20071213085203.pdf>), public facility design meeting LEED Silver certification is recommended for local government public projects, "where this recommendation does not apply to schools and small-scale residential projects including affordable housing, policies for which are to be evaluated in 2008 and 2009."

The information provided by LCPS will help the COG customize this recommendation to schools in the region. LCPS analysis indicates that the middle school design achieves a "certified" LEED level, within five or six credit points of achieving silver level. It also incorporates at least three credits deemed "regional credits" by COG. Finally, LCPS also uses Energy Star tools as recommended by the report. These comments do not constitute outstanding issues for this application. They were meant to evaluate LCPS' green building commitments and suggest design and processing options that can be developed over time, outside of this case review.

Let me know if you have further questions. Thanks!

William

DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM



DATE: April 29, 2008

TO: Marchant Schneider, Project Manager

FROM: Michael Clem, Archaeologist - Environmental Review Team

SUBJECT: **SPEX-2008-0017, CMPT 2008-0007 Loudoun County Public Schools
– Lenah Property**

Staff has reviewed the Phase 1 archaeological report for the subject property prepared by URS in January 2007. The property is located on the south side of Lenah Road in southeastern Loudoun County.

No archaeological sites were identified in this portion of the property that was examined in the initial survey and the recommendation section of the report called for no further archaeological work.

Comments & Recommendation

The report submitted by URS for this application and the work it describes do not meet the standards as described in the Virginia Department of Historic Resources Guidelines (VDHR) as required by Loudoun County. Large portions of the property, considered high to moderate probability for yielding archaeological information, were not tested.

Less than 50 shovel tests pits were excavated in this 100 acre portion of the original survey area. The standard, as described in the VDHR Guidelines, describes a testing interval of 50 feet during a Phase I survey. A 50 foot interval equates to approximately 16 shovel tests per acre. This 50 foot interval is recommended on areas that are undisturbed, are well drained, have a slope of less than 15%, and are in areas that are near a reliable water source (which increases probability for human occupation and use). While much of this project area is divided by slopes and drainages there are large flat areas that are well drained and have reliable springs and drainage access. Considering the slope, wetlands, and disturbed areas, approximately 40-50% of these 100 acres are considered testable by VDHR standards. That equates to approximately 640-800 shovel tests on this 100 acre project area.

A Phase I survey is required for this application that meets VDHR standards.

If the applicant requires a list of qualified consultants to conduct the Phase I survey staff will gladly refer them to such a list.

DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM



DATE: August 5, 2008
TO: Marchant Schneider, Project Manager
FROM: Michael Clem, Environmental Review Team Archaeologist
SUBJECT: **SPEX-2008-0017 Lenah Property 2nd Referral**

Staff has reviewed the Phase 1 archaeological survey report for the subject property prepared by Thunderbird Archeology in July 2008.

Two archaeological sites (44LD1530 & 1531) were identified on the property. Neither site was recommended for further work. Site 1530 is associated with an historic house (053-5706) that has been demolished and testing was not possible within the house site due to the related disturbance. The house, prior to being razed, was not considered eligible for the National Register of Historic Places due to severe deterioration. Site 1531 was described as an historic trash scatter and no evidence of subsurface integrity or deposits exist.

Recommendation

Staff concurs with the finding of the report and agrees that no further archaeological work is warranted for this application.